

Q.P. Code – 50830

Third Year B.Sc. Degree Examination, OCTOBER/NOVEMBER 2016

(Directorate of Distance Education)

Zoology

**(DSC 310) Paper III – CELL BIOLOGY, GENETICS, EVOLUTION,
APICULTURE AND SERICULTURE**

Time : 3 Hours]

[Max. Marks : 75/85

Instructions to Candidates :

- 1) *Students who have attended 25 marks I-A Scheme will have to answer for total of 75 marks.*
- 2) *Students who have attended 15 marks I-A Scheme will have to answer for total of 85 marks.*
- 3) *One mark questions should be answered in first two pages of the answer book.*
- 4) *Draw neat labelled diagrams wherever necessary.*
- 5) *Question No. V is **compulsory** for 85-marks scheme.*

I. Simple Answer Questions :

10 × 1 = 10

Answer in a word or a phrase or a sentence :

1. Define gene pool.
2. What are vestigial organs?
3. What is Royal jelly?
4. What are Introns?
5. Name any two silk worm diseases.
6. What is centrifugation?
7. What are multiple alleles?
8. Define antigen.
9. What is external fertilization?
10. What are carcinogens?

II. Short Answer Questions :

5 × 3 = 15

Answer any **FIVE** of the following :

11. Write a note on Gynandromorphs.
12. Give an account of homologous organs.

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13. Explain Immunization.
14. Explain by-products of sericulture.
15. Differentiate between spermatogenesis and oogenesis.
16. Define (a) Cistron (b) Recon (c) Muton.
17. Write a note on bottle neck phenomenon.

III. Medium Answer Questions :

5 × 6 = 30

Answer any **FIVE** of the following :

18. Explain the structure of mouth parts of honey bee.
19. Explain lethal genes with an example.
20. Give a detailed account on natural parthenogenesis.
21. Explain Lac-operon concept.
22. Explain capacitation and acrosome reaction.
23. Describe Lamarkism.
24. Write a note on genic balance theory.

IV. Long Answer Questions :

2 × 10 = 20

Answer any **TWO** of the following :

25. Describe the process of spermatogenesis.
26. Explain embryological evidences in support of organic evolution.
27. Explain modern method of bee keeping.
28. Describe the life cycle of *Bombyx mori*.

V. Compulsory Question for 85 marks scheme only :

1 × 10 = 10

Answer any **ONE** of the following :

29. Explain synthetic theory of evolution.
30. Explain the following :
 - (a) CLB technique
 - (b) Properties of cancer cells